

PSYCH 318 Physiological Psychology
MWF 11:30 - 12:30 Clough 118

Robert Strandburg
Clough 120 x3990

TEXT: Carlson, N.R. (1995). Foundations of Physiological Psychology, 3rd edition. Needham Heights, MA: Allyn and

Bacc

COURSE OUTLINE AND READING ASSIGNMENTS (TENTATIVE)

| | | | |
|----------|--|---|--------------------|
| Part I | <u>Basic Structure and Function of the Nervous System</u> | | |
| Aug | 26, 28 | Origins of Physiological Psychology | Ch 1 pg 1 - 22 |
| | 31, Sep 2 | Cells of the Nervous System | Ch 2 pg 23 - 58 |
| Sep | 4, 9 | Communication between Neurons | Ch 3 pg 59 - 81 |
| | 11, 14 | Structure and Function of the Nervous System | Ch 4 pg 82 - 107 |
| | 16 | Methods and Strategies of Research | Ch 5 pg 108 - 135 |
| | 18 | EXAM | |
| Part II | <u>Information Processing in Sensory and Motor Systems</u> | | |
| Sep | 21, 23, 25, 28 | Vision | Ch 6 pg 136 - 168 |
| | 30, Oct 2, 5 | Audition, the Body Senses and the Chemical Senses | Ch 7 pg 169 - 201 |
| Oct | 2 | TERM PAPER PROPOSAL DUE | |
| | 7, 9 | Control of Movement | Ch 8 pg 202 - 224 |
| | 12 | EXAM | |
| Part III | <u>Motivation and Emotion</u> | | |
| Oct | 14, 16, 21 | Sleep | Ch 9 pg 225 - 257 |
| | 23, 26 | Reproductive Behavior | Ch 10 pg 258 - 291 |
| | 28, 30, | Emotion and Stress | Ch 11 pg 292 - 325 |
| Nov | 2, 4 | Ingestive Behavior | Ch 12 pg 326 - 358 |
| | 6 | EXAM | |
| | 9 | PRELIMINARY DRAFT DUE | |
| Part IV | <u>Integrative Activity of the Central Nervous System</u> | | |
| Nov | 9, 11, 13, 16, 18 | Learning and Memory | Ch 13 pg 359 - 398 |
| | 20, 23 | Human Communication | Ch 14 pg 399 - 428 |
| | 30, Dec 2 | Neurological Disorders | Ch 15 pg 429 - 449 |
| Dec | 4 | TERM PAPER DUE | |
| | 4, 7, 9 | Mental Disorders | Ch 16 pg 450 - 483 |
| | 15 8:30am | FINAL EXAM | |

GOALS

The goal of this course is to develop the student's ability to think critically about the relationship between the brain and human behavior. Our understanding of this relationship varies greatly across the phenomena typically addressed by psychologists (perception, emotion, thought, motivation, psychopathology, etc, etc), and we will cover representative work (the methods, findings and theories) in each of these areas as noted in the course outline. At the outset (Part I above) the student must develop a basic understanding of the physiological, pharmacological and anatomical principles which apply to all of the psychological phenomena we will study. We will then examine perceptual and motor systems (Part II) to gain an understanding of how information is coded and transformed in the nervous system. In Part III we will address a variety of motivated behaviors (eating, sleeping, reproducing etc) to gain insight into the interplay of various neural systems in behavioral activation and homeostatic regulation. Finally, in Part IV we will look at a variety of complex psychological phenomena such as language and psychopathology attempting to pull together the principles developed in Parts I, II and III.

TERM PAPER

In addition to the three hour exams and the final, you will be asked to submit a term paper (approximately ten pages, typed and in APA format) on a topic of your own choosing. Your best strategy is to pick a topic for which you have a prior interest, and then see what you can learn about the physiological mechanisms which mediate the underlying psychological functions. If a topic doesn't immediately spring to mind, you might start by looking through the table of contents of your

textbook. If a particular chapter sounds interesting, skim through it and see if something suggests itself as a topic. I also recommend the Encyclopedia of Neuroscience edited by Adelman which we have in the Burrow Library. This is an excellent place to find a topic or to begin research on a topic you have already chosen.

A typewritten proposal with at least four annotated references (beyond Carlson and Adelman) will be due on October 2. This will be graded. The proposal should start with two or three paragraphs describing the topic of your paper and the issues you will be addressing. Following this you should list the references in APA format with a paragraph for each explaining what issues the reference addresses (do not simply paraphrase of the article's abstract). Your goal should be to locate at least four primary resources (research reports from refereed journals) which reflect current research on your topic. You should avoid using tertiary sources like Time, Newsweek, Psychology Today, etc. - these are often superficial and riddled with misinformation. Secondary resources, review articles and edited volumes, are useful primarily for gaining an overview and identifying important work in the field - I recommend these as a starting point for your research.

The final draft of the paper will be due at 3:00pm on December 4th (papers will not be accepted after this deadline). You have the option to submit a preliminary draft (typewritten and properly referenced) which will not be graded but will be returned with comments and suggestions. This preliminary draft with my comments must be turned in with your final draft. As is the case with everything you hand in to me, this preliminary draft falls within the domain of the honor code - all resources must be appropriately acknowledged (including the internet - references to the internet should include the entire website address). If you chose to submit a preliminary draft, it will be due no later than November 9th.

GRADING

The four exams are each worth 100 points and the paper is worth 200 points (30 of which will be determined by the grade you get on the proposal). Although you are not graded explicitly on your participation in class, my ability to judge your understanding of the material discussed in your essays is often influenced by the level of understanding you have demonstrated in class. Further, the quality of your contribution to classroom discussions can influence my decision when your grade is on the borderline. Excessive absences will result in a lowering of your grade.

HONOR CODE

The honor code applies to all work submitted to me in this course. Ignorance of the law is no excuse; if you have any questions about whether something you have written might be considered to be plagiarized, please see me before handing it in (do not wait until the day it is due!). Direct quotes must appear within quotation marks followed by the source and page number. To avoid quotation marks, many students will simply paraphrase their source material by substituting synonyms or by reversing the order of the adjectives, nouns or clauses without fundamentally changing the way an idea is expressed. Although this conforms to the letter of the law, it clearly violates the spirit of the law, and does not make a good impression on the person grading your work - me. Demonstrate both to me and, more importantly, to yourself that you understand what you are writing by putting things into your own words. There are few passages in the psychological literature which merit direct quotation.

OFFICE HOURS:

MW 1:00 - 4:00 and by appointment.

I am in class MWF 9:10-10:10, MWF 11:30-12:30 and TuTh 1:00-4:00 pm. In addition, I have weekly departmental research meetings Thursday 11:20 - 12:50, and during the hour before I teach, I obsess about the lecture and am usually not particularly sociable. Other than at these times, you should feel free to come by my office - most of the time I don't mind being interrupted, but if I am in the middle of something which can't be interrupted, I will be glad to schedule an appointment when it is convenient for both of us. In addition, communicating with me by email is a good way to get answers to your questions fairly quickly.